



IFW

Patent
45389.00006.CIP1

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of:

Ismail Lakkis

Serial No.: 10/810,948

Filed: March 25, 2004

For: SYSTEMS AND METHODS FOR
IMPLEMENTING PATH DIVERSITY IN
A WIRELESS COMMUNICATION
NETWORK

)
) Group Art Unit: 2631
)
) Examiner: To Be Assigned
)
) Customer No.: 36183
)
)
)
)
)
)

TRANSMITTAL LETTER

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Enclosed are the following documents:

- Supplemental Information Disclosure Statement;
- Form PTO/SB/08A with copies of 18 cited References; and
- Return Postcard;

No fee is believed due with this submission; however, the Commissioner is authorized to charge any fee required to our Deposit Account No. 50-2613.

CERTIFICATE OF MAILING
(37 C.F.R. §1.8a)

I hereby certify that this paper (along with anything referred to as being attached or enclosed) is being deposited with the United States Postal Service on the date shown below with sufficient postage as First Class Mail in an envelope addressed to the Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Date of Deposit
SAN/100136.1

October 20, 2004

Timothy Lasher
Name of Person Mailing Paper

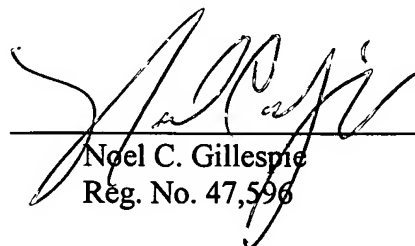
Timothy Lasher
Signature of Person Mailing Paper

Respectfully submitted,

PAUL, HASTINGS, JANOFSKY & WALKER LLP

Dated: 22-08-04

By: _____


Noel C. Gillespie
Reg. No. 47,596

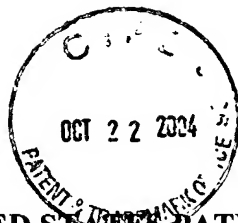
PAUL, HASTINGS, JANOFSKY & WALKER LLP

P.O. Box 919092

San Diego, CA 92191-9092

Phone: (858) 720-2500

Fax: (858) 720-2555



Patent
45389.00006.CIP1

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of:

Ismail Lakkis

Serial No.: 10/810,948

Filed: March 25, 2004

For: SYSTEMS AND METHODS FOR
IMPLEMENTING PATH DIVERSITY IN
A WIRELESS COMMUNICATION
NETWORK

)
) Group Art Unit: 2631
)
) Examiner: To Be Assigned
)
) Customer No.: 36183
)
)
)
)
)
)

SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

In compliance with the Applicant's duty under 37 CFR § 1.56, the following information is brought to the attention of the Examiner.

CERTIFICATE OF MAILING
(37 CFR §1.8 a)

I hereby certify that this paper (along with any referred to as being attached or enclosed) is being deposited with the United States Postal Service on the date shown below with sufficient postage as First Class Mail in an envelope addressed to the Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

October 20, 2004
Date of Delivery

Timothy Lasher
Name of Person Delivering Paper

Timothy Lasher
Signature of Person Delivering Paper

REFERENCES



The references are listed on the attached Form PTO/SB/08a and copies are enclosed for the convenience of the Examiner.



Copies of the references listed on the attached Form PTO/SB/08a have already been submitted in corresponding Patent Application No. _____ and therefore, copies of the same are not enclosed.



Copies of U.S. Patent documents are not enclosed herewith.

The items identified in this Supplemental Information Disclosure Statement may or may not be “material” pursuant to 37 CFR § 1.56 and the submission thereof by Applicant shall not be construed as an admission that any such patent, publication or other information referred to therein is material or considered to be material (37 CFR § 1.97(h)), or even qualifies as “prior art” 35 USC § 102 with respect to this invention unless specifically designated by Applicant as such.

The filing of this Supplemental Information Disclosure Statement shall not be construed to mean that a search has been made or that no other material information, as defined in 37 CFR § 1.56, exists.

DISCLOSURE

☒ The attached Supplemental IDS is being filed in accordance with 37 CFR §§ 1.97 and 1.98. This IDS is believed to be timely in that it is being submitted under 37 CFR § 1.97(b)(3), that is before the mailing of a first Office Action on the merits. Thus, no petition or fee is required. However, if the undersigned representative of Applicant is in error in this regard, then the Examiner is requested to consider this IDS as filed under § 1.97(c)

☐ The attached Supplemental Information Disclosure Statement is being filed in accordance with 37 CFR §§ 1.97(c) and 1.98. This IDS is being filed after an action on the merits but before a Final Action under § 1.113 or a Notice of Allowance under § 1.311. In the event that this IDS is not received before a Final Action under § 1.113 or a Notice of Allowance under § 1.311, the Applicant respectfully requests the filing of these papers to be considered a petition requesting consideration of this IDS pursuant to 37 CFR § 1.97(d).

☐ The attached Supplemental Information Disclosure Statement is being filed in accordance with 37 CFR §§ 1.97(d) and 1.98. This IDS is being filed after receipt of a final action but before receipt of a Notice of Allowance Under § 1.311.

Statement Under 37 C.F.R. 1.97(e)(1) and 1.97(e)(2)

☐ I certify that pursuant to 37 CFR 1.97(e)(1), each item of information contained in this Supplemental Information Disclosure Statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the Information Disclosure Statement.

☐ I certify that pursuant to 37 CFR 1.97(e)(2), no item of information contained in this Supplemental Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the best of my knowledge, no item of information contained in this Information Disclosure Statement was known to any individual more than three months prior to the filing of this Information Disclosure Statement.

PAYMENT METHOD

☐ Enclosed is a check to cover the fee pursuant to 37 CFR § 1.17(p).

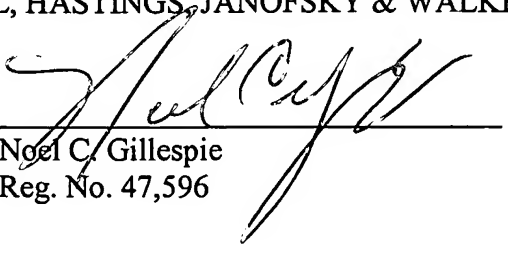
☒ The Examiner is hereby authorized to charge any fee due with this filing to our Deposit Account No. **50-2613**.

☐ The Examiner is hereby authorized to charge any additional fee(s) required by this paper to our Deposit Account No. **50-2613**.

Respectfully submitted,

PAUL, HASTINGS, JANOFSKY & WALKER

Dated: 22-OCT-04

By: 
Noel C. Gillespie
Reg. No. 47,596

P.O. Box 919092
San Diego, California 92191-9092
Telephone: (858) 720-2500
Facsimile: (858) 720-2555



Please type a plus sign (+) inside this box → +

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number

PTO/SB/08A (08-00)

Approved for use through 10/31/2002. OMB 0651-0031

U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Substitute for form 1449A/PTO

SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet 1 of 3

Complete if Known

Application Number	10/810,948
Filing Date	March 25, 2004
First Named Inventor	Lakkis, Ismail
Group Art Unit	2631
Examiner Name	To Be Assigned
Attorney Docket Number	45389.00006.CIP1

U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number	Kind Code ² (if known)			
	AD	5,109,390		Gilhousen et al.	04-28-1992	
	AE	5,563,909		Nakazawa	10-08-1996	
	AF	5,675,572		Hidejima et al.	10-07-1997	
	AG	5,680,419		Bottomley	10-21-1997	
	AH	5,949,813		Hunsinger et al.	10-07-1999	
	AI	6,049,707		Buer et al.	04-11-2000	
	AJ	6,192,068 B1		Fattouche et al.	02-20-2001	
	AK	6,215,814 B1		Ylitalo et al.	04-10-2001	
	AL	6,259,687 B1		Lomp et al.	07-10-2001	
	AM	6,320,897 B1		Fattouche et al.	11-20-2001	
	AN	6,526,090 B1		Papasakellariou	02-25-2003	
	AO	6,529,545 B2		Tirola et al.	03-04-2003	
	AP	RE37,802 E		Fattouche et al.	07-23-2002	

FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	Foreign Patent Document			Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁶
		Office ³	Number ⁴	Kind Code ⁵ (if known)				

NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
	AQ	BINGHAM, JOHN A.C. "Multicarrier Modulation for Data Transmission: An Idea Whose Time Has Come" IEEE Communications Magazine, May 1990, Pages 5-14.	
	AR	BLUM, RICK S. et al. "Improved Space - Time Coding for MIMO-OFDM Wireless Communications" IEEE Transactions on Communications, Vol. 49, No. 11, November 2001, pp. 1873-1878.	

Examiner
Signature

Date
Considered

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation is not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number. ² See attached Kinds of U.S. Patent Documents. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

Please type a plus sign (+) inside this box

OCT 22 2004

PTO/SB/08A (08-00)

Approved for use through 10/31/2002. OMB 0651-0031

U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no person is required to respond to a collection of information unless it contains a valid OMB control number

Substitute for form 1449A/PTO

SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet

2

of

3

Complete if Known

Application Number	10/810,948
Filing Date	March 25, 2004
First Named Inventor	Lakkis, Ismail
Group Art Unit	2631
Examiner Name	To be assigned
Attorney Docket Number	45389.00006.CIP1

NON PATENT LITERATURE DOCUMENTS

Examiner Initials ¹	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
	AS	CHAUNG, JUSTIN et al. "Beyond 3G: Wideband Wireless Data Access Based on OFDM and Dynamic Packet Assignment" IEEE Communications Magazine, July 2000, pages 78-87.	
	AT	CRAMER, R. JEAN-MARC et al. "Impulse Radio Multipath Characteristics and Diversity Reception" IEEE 1998, pp. 1-5.	
	AU	EDFORS, OVE et al. "An introduction to orthogonal frequency-division multiplexing" September 1996, pp. 1-50	
	AV	ERTEL, RICHARD B. et al. "Overview of Spatial Channel Modes for Antenna Array Communication Systems" IEEE Personal Communications, February 1998, pp. 10-22.	
	AW	FOERSTER, JEFF et al. "Intel CFP Presentation for UWB PHY" IEEE P802.15 Working Group for Wireless Personal Area Networks, IEEE 802.15-03/109, March 03, 2003, pp. 1-53.	
	AX	KELLY, JOY "Multi-band OFDM Physical Layer Proposal Update" IEEE P802.15 Working Group for Wireless Personal Area Networks, IEEE 802.15-04/0122r4, March 15, 2004, pp. 1-26.	
	AY	LEEPER, DAVID G. "Wireless Data Blaster: Radio's oldest technology is providing a new way for portable electronics to transmit large quantities of data rapidly without wires" Scientific American, May 2002, Pages 64-69.	
	AZ	LE, I-TAI et al. "A Practical Implementation of Broadband Multiple Antenna Systems" 1999 IEEE, pp. 1-5.	
	BA	PATTAN, BRUNO "A Brief Exposure to Ultra-Wideband Signaling" Microwave Journal, December 2003, pages 1-5.	
	BB	VANDANAMEELE, PATRICK et al. "A Combined OFDM/SDMS Approach" IEEE Journal on Selected Areas in Communications, November 2000, pp. 1-27.	

Examiner
Signature

Date
Considered

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation is not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number. ² See attached Kinds of U.S. Patent Documents. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

Please type a plus sign (+) inside this box

OCT 22 2004

PTO/SB/08A (08-00)

Approved for use through 10/31/2002. OMB 0651-0031

U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number

Substitute for form 1449/PTO

SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet 3 of 3

Complete if Known

Application Number	10/810,948
Filing Date	March 25, 2004
First Named Inventor	Lakkis, Ismail
Group Art Unit	2631
Examiner Name	To be assigned
Attorney Docket Number	45389.00006.CIP1

NON PATENT LITERATURE DOCUMENTS

Examiner Initials	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
	BC	WINTERS, JACK H. "On the Capacity of Radio Communication Systems with Diversity in a Rayleigh Fading Environment" IEEE Journal on Selected Areas in Communications Vol. SAC-2, No. 5, June 1987, pp. 871-878.	
	BD	WINTERS, JACK H. "Optimum Combining in Digital Mobile Radio with Cochannel Interference" IEEE Journal on Selected Areas in Communications, Vol. SAC-2, No. 4, July 1984, pp. 528-539.	
	BE	WINTERS, JACK H. "Smart Antenna for Wireless Systems" IEEE Personal Communications, February 1998, pp. 23-27.	
	BF	WINTERS, JACK H. "Optimum Combining for Indoor Radio Systems with Multiple Users" IEEE Transactions on Communications, Vol. COM-35, No. 11, November 1987, pp. 1222-1230.	
	BG	WONG, CHEONG YUI et al. "Multiuser OFDM with Adaptive Subcarrier, BIT, and Power Allocation" IEEE Journal on Selected Areas in Communications, Vol. 17, No. 10, October 1999, pp. 1747-1758.	
	BH	YE, ZHONG et al. "Throughput Analysis for a Packet Radio Network Using Rate Adaptive OFDM Signaling" IEEE International Conference on Communications, June 1999, pp. 1-7.	

Examiner
Signature

Date
Considered

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation is not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number. ² See attached Kinds of U.S. Patent Documents. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.